How life has changed for the pest controller

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In 1967 I was a young recently qualified ‘inspector’ in the Ministry of Agriculture, Fisheries and Food’s regional Infestation Control Inspectorate, stationed in Liverpool. My training had been several months of practical on the job training in the company of more experienced ‘inspectors’, which, for me, included a few weeks in Starcross and Exeter visiting flour mills, animal feed stores, mills, government offices, hospitals and prisons.

In at the deep end

We had responsibility for pest control in government buildings and were inspecting a cottage hospital in Lancashire. During this visit, while spraying wasps and ants, a young nurse asked, “How safe is that spray you are using?” My colleague leapt to answer, pulling up his sleeve to spray his bare arm, whilst shouting, “It is perfectly safe, look!” I was temporarily frozen to the spot. I did not know how to answer the question accurately in relation to the insects, us or the staff and patients.

This small incident has stayed with me over 40 years and has clearly left an impression on me.

In the course of my career, staying with MAFF, then Defra, then leaving Gamma HCH spraying of bagged grain. This insecticide was banned many years ago and better protective equipment is now required by law.

Dichlorvos strips being used to control a moth infestation in a German intervention grain store. Their use resulted in the grain being dumped.

in 1995 to jointly found Acheta with Adrian Meyer, I have always wanted to know why and how the pesticides we have available work, both on our target pests and, by accident, on us. My experience of 1967 sparked off an increasingly relevant interest in probably the biggest change of all in the whole subject of pest control – safety with pesticides.

My colleague’s reaction to the question from the nurse was based more on a blind faith that MAFF would only give us products that were ‘safe’, but with virtually no technical information to help him form his own judgement.

Classified information

Another early and personal experience which would not/could not happen now was when I moved to the East Riding in 1972 and to an old house. As a pest control person, I was irritated that the mortgage lender insisted that the woodworm damage in the kitchen and elsewhere had to be treated by an external contractor. The local company wanted several hundred pounds to spray a small area of shelving and roof beams. I argued with the lender that I could do the same job but much more cheaply.

When the contractor was asked what they would use they replied that it was a ‘secret mixture and very effective’. Can you imagine any servicing company saying that to me, or to anyone else, today?

Dramatic changes

We have seen the practices, regulations, expectations and armory of the pest controller change dramatically over the last 40 years.

This dramatic change has taken place almost despite the pest control companies.

Government legislation, starting with the initial Control of Substances Hazardous to Health (COSHH) regulations arising from the Health and Safety at Work Act, has made us all think much harder about what and how we control pests.

COSHH gives everyone a responsibility to assess the need for pest control and then to choose the least hazardous method and materials. Back in the early 1970s the Vapona Strip became available for the control of flies in some buildings. Homes and offices could buy these strips to kill the occasional intruder fly in our offices. The active ingredient was dichlorvos, an organophosphate insecticide impregnated into a thick plastic strip.

When removed from its protective foil wrapper the strip was suspended from the ceiling in its thin cardboard ‘cage’, allowing dichlorvos vapour to escape and ‘treat’ the air space, killing all flying insects present.

The Royal Dutch Shell Company developed this fly killing technique but, just as it was being registered in the UK, the Dutch government was having second thoughts.

Control – just in case

My first experience with the Vapona Strip was its use in some MAFF offices in the mid 1970s, particularly in typing pools, where it was suspended, as normal, ‘in case a fly comes in’.

It was not too long before we had reports of typists with severe headaches, some with very sensitive facial skin – a sort of neuralgia or nerve ending tenderness.

The typing connection was simply that typists spent many hours each day subjected to contact with a nerve poison – dichlorvos vapour.

The same effect would have been noticed by anyone working daily in a dichlorvos atmosphere.

Talking to the younger generation of pest controllers during training courses, they are amazed that we had such an approach to pest control.

A Royal Commission

HSE and COSHH and an earlier Royal Commission on pesticide use, between them, have created a far more responsible thought process – only do pest control if there is a pest to be controlled and then choose the least hazardous method.

For our typists and everyone else these days, the recommendation would be to close, or screen, open windows against flies!

The ‘Vapona’ type of impregnated strips have all but disappeared but we were several years behind the Dutch government in removing them from general sale.

Larger sized versions of these strips were also available to the pest con-

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trol industry. I remember seeing
them suspended over the grain sur-
faces in intervention grain stores in
southwest Germany.

The screwdriver used to control an
Ephesia sp. moth infestation in the
surface layers of the long term
stored grain, but unfortunately a
couple of years later it was sampled
ready for sale and found to contain
excessive levels of dichlorvos
residues and too contaminated to
be used as a human or animal food
material. It was therefore dumped
on a waste tip.

The restriction in availability of
many organophosphates over the
past 15 years has been government
inspired, but partly in response to
the public’s dislike for those ‘nasty’
insecticides, particularly organo-
phosphates.

There was some justification for
this view, since organophosphates
can have seriously damaging and
potentially permanent effects on the
human nervous system, but only if
they are misused with no regard for
the advice printed on the labels.

The label and the law

The system of pesticide labelling has
also come in for serious revision
covering the past decade. They are a
real source of information for pest
controllers (as are those used on
consumer products) and for profes-
sional users, the ‘statutory box’
forms a legal document.

Here amongst other information,
will be found the level and type of
personal protective equipment
required to apply these products in
safety.

As the years go by, the most fre-
cquent changes to pesticide labels
occur in the safety related areas.

As more information becomes
available on the long term chronic
effects of our insecticides on us and
other non-target species, the regis-
tration authorities in the UK (most
frequently the Health and Safety
Executive (HSE) in relation to
‘indoor’ pesticides) continually re-
appraise the phraseology of the
labels on ‘its’ products and issue
advice to registered companies of
the need for amendments.

This does not mean that previous
labels were necessarily wrong, but
more experience and scientific infor-
mation will often suggest better
wording and more accurate safety
limits.

Safety clothing has been so
affected and we now see, for exam-
ple, that even outdoor rat and mole
control using phosphine gas releas-
ing tablets should be done wearing a
hat mask with the appropriate
absorption filter.

For example part of a current
manufacturer’s label states that
‘operators must wear suitable pro-
tective clothing (coveralls), suitable
protective gloves and suitable respi-
ratory protective equipment when
opening container, handling and
placing the pellets, ie full face respi-
rator with appropriate gas filter car-
tridge (which also meets P3
standard for particulars) or RPE
offering equivalent protection. To be
used only by an operator instructed
or trained in the use of aluminium
phospide and familiar with the pre-
cautionary measures to be
observed. See HSE guidance note
CS22: Fumigation (and even this ref-
erence has changed in the last 12
months).

Many in the industry were not
convinced that such precautions
were necessary when handling
apparently simple tablets which
looked much like a well known indi-
gestion tablet!

Since I do a great deal of fumiga-
tion training both in the UK and
overseas, I am well aware just how
dangerous these innocuous tablets
can be – five days’ exposure to kill
insects in dried foods (grains, rice
and peanuts) but, at the same con-
centration as a stack fumigation in a
warehouse, we (you and I, and any
other vertebrate) would survive
about 30 minutes before death!

They are potentially deadly, hence
the need for effective training, and
the correct respiratory protective
equipment (RPE).

Technical training

Without training, a typical un-
trained person’s reaction to smelling
phosphine gas (strong garlic like
odour) is to breathe through a
moistened handkerchief. If any of
the original tablets have crumbled
into powder, a wet hankie actually
makes the human risk even greater.

An intensive seven year training
programme was started in india in
1998 to minimise risk and death
amongst the pest control contractor
staff. The extended training was not
cheap but cheaper than the consequ-
ences of killing staff or bystanders.

Successes and failures

Years ago I was asked to assess a
German cockroach infestation in a
Liverpool nurses’ hostel.

A major pest control contractor
had tried unsuccessfully to get con-
trol and as a government property
we had an obligation to take it on.

Night visits were essential (no
Hoy-Hoy traps in those days) and
we eventually used fenitrothion
emulsion (another organophos-
phate) mixed in Polycell wallpaper
paste and applied with a compressor
and paint spray gun to walls and
beneath tables and in some cup-
boards.

We understood much of the
safety requirements (at least by
1967 standards) and achieved con-
siderable success, at least from the
viewpoint of the nurses, and their
accommodation.

For about the last 10 years we
have been able to use baits which
are amazingly attractive to cock-
roaches and which are almost risk
free. How is this so, when their
active ingredients are actually much
more toxic than the old fentroth-
ion?

Here is one of the great successes
in modern insect pest control. The
development of baits, which bring
pest insects to your point of choice,
rather than with the previous broad
expansive contact sprays, with exces-
sive over application and the poten-
tial to contaminate us and other
non-target species and the environ-
ment.

The baits are pre-mixed, do not
need touching by operators and are
very effective quickly and for pro-
longed periods. We even have a
small choice of active ingredients,
which should help keep resistance
away for several years.

We also have very effective baits
available for controlling the ‘institu-
tion’ pest Pharaoh’s Ant, a tropical
but long standing UK pest, causing
serious health problems in many
hospitals, shopping malls and multi-
occupancy homes.

For these ants, there is even bet-
ter news, in that the baits are as
non-toxic as it is possible to get, util-
is ing the insects’ own hormones to
interfere with the full development of
the species. No toxic material in
sight!

However, the situation for bedbug
control is not so good and is possi-
bly getting worse.

For many years we have relied on
selected organophosphate insecti-
cide localised sprays and some dust
formulations and increasingly an
older carbamate insecticide.

The carbamates, like the organophosphates are nerve poi-
sions, requiring great care to avoid
contamination of operator, occup-
pant and the localised environment.

In recent months, we have heard
from eminent experts that significant
resistance has been identified in bed-
bug colonies across many parts of
the UK.

During this same period, the
choice of insecticide active ingredi-
ents has declined noticeably, for the
laudable safety reasons mentioned
above, leaving in reality very few
choices, but putting the pest con-
troller’s favourite – Bendiocarb –
under even greater pressure and
with even more likelihood of
increased resistance.

This species is probably the most
important subject needing further
research to identify a breakthrough
in either application design or active
ingredient, to counter the spreading
problem of bedbugs in the UK.

Unfortunately, it is unlikely that
we will ever have an effective bait,
unless we can persuade enough vol-
unteers to offer to take treatments
like we do for dogs against fleas – a
small drop on the back of the neck
to contaminate our own blood to
control the bugs which may bite us.

However, I can not see this
method ever gaining government
approval!

Applying a cockroach bait during
working hours with minimum
protective equipment. The latest
label would require the wearing of
gloves.